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EXAMINER

THAI, HANH B

ART UNIT

PAPER NUMBER

2163

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,350

Applicant(s)

LANZATELLA ET AL.

Examiner

Hanh B. Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed 8/2/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 8-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 21-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

PD

DETAILED ACTION

Response to Arguments

1. Applicant argues on pages 10-11: “Bracha does not disclose the above recited features...Bracha does not disclose “receiving a storage object reference...Bracha does not disclose “determining an initial storage management stack level associated with the storage regerence.”

Examiner responds: Office personal are to give claims this broadest reasonable interpretation consistent with the specification. See *In re Morris*, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir. 1997). See MPEP § 2111 - § 2116.01.

Applicant fails to point to the supporting disclosure for a clear and concise definition of “storage object” and “storage reference”. Applicant, however, does list a few examples of what a storage object may comprise but does not provide the means by which examiner is able to give “storage object” its broadest reasonable interpretation.

Examiner turns to a common dictionary for a definition ¹ for “storage object.” 1. Short for object code (machine-readable code). 2. In object oriented programming, a variable comprising both routines and data that is treated as a discrete entity.

Examiner maintains the object disclosed by Bracha reads on the claimed “storage object” because the object taught by Bracha in an object-oriented environment is a variable computing both routines and data that is treated as a discrete entity.

¹ Microsoft Computer Dictionary Fifth Edition.

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Applicant argues on page 12: “Harrison and Bracha are completely unrelated, and one would not be motivated to look to the hard drive API of Harrison to modify the object oriented programming method disclosed in Bracha.”

Examiner responds:

In response to applicant’s argument that the references fail to disclose the claimed features of applicant’s invention, it is noted that the language of the limitations in claim 1 can be given broad and reasonable interpretation. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Bracha discloses the class that satisfies the criteria reads on “a storage object reference (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23), determine the object class and the downward loop search through the classes on the path stack (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23, Bracha) read on “determining an initial stack level associated with the storage reference” and “iterating through one or more additional stack levels beginning with the initial stack level.”

In the computed art, Harrison discloses a method for storage application programming interface for storage and retrieval based upon data object type or size including the relative extents in storage (see col. 6, lines 1-8; Fig. 6 and corresponding text, Harrison).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Bracha and Harrison to include the relative extents in storage by looping through the storage stack levels because it

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would have been to improve the techniques of accessibility to objects (col.2, lines 48-53, Bracha).

Examiner believes that the motivation was given above to combine Bracha and Harrison is sufficient. In addition, Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Moreover, the test for obviousness is not whether the features of one reference may be bodily incorporated into the other reference to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 and 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bracha et al. (US 6,687,760) in view of Harrison et al. (US Patent no. 6,128,717).

Regarding claim 1, Bracha discloses a method for resolving a storage object's absolute location within a first storage environment to grant access to the storage object, comprising:

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- receiving a storage object reference (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23, Bracha discloses the class that satisfies the criteria reads on “a storage object reference”);
- determining an initial stack level associated with the storage reference (abstract; summary and col.5, lines 39-55, Bracha);
- iterating through one or more additional stack levels beginning with the initial stack level (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23, Bracha); and
- translating the storage reference through each iteration (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59, Bracha).
- Bracha, however, does not explicitly disclose the one or more relative extents until one or more absolute extents are obtained, wherein the one or more absolute extents comprise the storage object's absolute location within the first storage environment. Harrison discloses a method for storage application programming interface for storage and retrieval based upon data object type or size including the relative extents in storage (see col. 6, lines 1-8; Fig. 6 and corresponding text, Harrison). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bracha as taught by Harrison to include the claimed feature. The motivation of doing so would have been to improve the techniques for accessibility to objects (col.2, lines 48-53, Bracha).

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Regarding claim 2, Bracha/Harrison combination discloses that the reference is received from a module included in an application programming interface (API) library (see summary of Harrison).

Regarding claim 3, Bracha/Harrison combination discloses that the reference is obtained from a client module initiating one or more storage-access modules of the API library resulting in the initiation of the module ((abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59, Bracha)).

Regarding claim 4 Bracha/Harrison combination discloses that the client module resides in a second storage environment (see Fig.2 and corresponding text, Harrison).

Regarding claim 5, Bracha/Harrison combination discloses that a file system and volume manager associated with the first storage environment is identified (see Fig.1A and corresponding text, Harrison).

Regarding claim 6, Bracha/Harrison combination discloses the translating the storage reference, the file system and volume manager provide one or more operations to translate the storage reference into one or more of the relative extents and one or more of the absolute extents (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59, Bracha).

Regarding claim 7, Bracha/Harrison combination discloses one or more modules within an API library (element 50, Fig.6 and corresponding text, Harrison).

Regarding claim 21, Bracha discloses a storage object access system, comprising:

- a storage management stack having a plurality of stack levels, wherein the stack levels include a lowest level identifying one or more storage devices of a first storage environment (abstract; summary; col.5, lines

- 39-55 and line 57 to col.6, line 59 and Fig.4-5, Bracha showing the path stack with the “class D” corresponding to a lowest level of the stack);
- the stack levels to resolve a reference to a storage object and to pass the resolved reference to a next stack level, unless the resolved reference is an absolute reference to the storage object housed on one or more of the storage devices (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23, Bracha); and
 - Bracha, however, does not explicitly disclose the module interfaces and controller that selectively calls a number of the plug-in modules until the absolute reference is obtained. Harrison discloses a method for storage application programming interface for storage and retrieval based upon data object type or size including the relative extents in storage (see col. 6, lines 1-8; Fig. 6 and corresponding text, Harrison) and the controller that selectively calls a number of the plug-in modules (see fig.1A, Harrison). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bracha as taught by Harrison to include the claimed feature. The motivation of doing so would have been to improve the techniques for accessibility to objects (col.2, lines 48-53, Bracha).

Regarding claim 22, Bracha/Harrison combination discloses one or more replica references are obtained by the controller with the obtained absolute reference, the replica references identifying replicas for the storage object within the first storage environment (see fig.1A; Fig.10-11 and corresponding text, Harrison).

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Regarding claim 23, Bracha/Harrison combination discloses that the controller is an application programming interface (API) library (see summary of Harrison).

Regarding claim 24, Bracha/Harrison combination discloses the controller executes in both the first storage environment and a second storage environment (see fig.1A; Fig.10-11 and corresponding text, Harrison). Please note that “the file system” and “volume manager” corresponds to the first and second storage environment respectively.

Regarding claim 25, Bracha/Harrison combination discloses that the controller is used by a client module in a second storage environment (see col.7, lines 3-11, Harrison).

Regarding claim 26, Bracha/Harrison combination discloses the storage management stack is a storage hierarchy representing a storage configuration for the storage object within the first storage environment (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59, Bracha).

Regarding claims 27-28, Bracha/Harrison combination discloses an application level, a file system level, a volume manager level, and a device level. Fig. 1A of Harrison showing application level, a file system level, a volume manager level, and a device level. And the application level, a file system level, a volume manager level, and a device level corresponding to the first level, second level, third level, and the lowest level respectively.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fahey (US 6,101,169) discloses method and apparatus for unambiguous topological determinancy in an unpowered stack configuration.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh B. Thai whose telephone number is 571-272-4029. The examiner can normally be reached on 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh B Thai
Examiner
Art Unit 2163

October 4, 2005



UYEN LE
PRIMARY EXAMINER